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| 32692                            | 7590        | 12/10/2007           | EXAMINER            |                  |
| 3M INNOVATIVE PROPERTIES COMPANY |             |                      | BERHANU, SAMUEL     |                  |
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**GROUP 2800**

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/828,656  
Filing Date: April 21, 2004  
Appellant(s): HARTUNG ET AL.

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Peter L. Olson  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 8/16/2007 appealing from the Office action mailed 12/29/2006

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

|              |                 |          |
|--------------|-----------------|----------|
| 2002/0074970 | Kawahima        | 06-2002  |
| 3,851,322    | Compoly et. al. | 11-1974  |
| 5,945,809    | Inaba et. al.   | 08-19999 |
| 5,867,798    | Inukai et. al.  | 02-1999  |
| 5,793,186    | Watabe et. al.  | 08-1998  |
| 5,233,283    | Kennedy         | 08-1993  |

#### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### **DETAILED ACTION**

##### ***Claim Objections***

1. Claim 39 recites the limitation "charging contacts" in line 4. There is insufficient antecedent basis for this limitation in the claim. For examination purpose examiner assumed that "charging contacts", meant to refer charging pins. Appropriate correction is required

2. Claim 36 recites the limitation "sensing pins" in line 4. It is unclear how a pin senses a current; instead a sensor is sensing a current or a voltage. Appropriate correction is required.

3. Claim 46 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to the other claims in the alternatives only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 32, 35-36 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et. al. (US 5,861,729).

Regarding Claim 32, Maeda et. al. disclose in Figures 1 and 2, a battery powered handpiece, comprising, a sensing contact (28) for detecting a current flow between a first charging contact (24), for connection to a first contact of a battery (8), and a second charging contact (26), for connection to a second contact of a battery (10).

Regarding Claim 35, Maeda et. al. disclose in Figures 1-3, a diode (14) located between said first charging contact (8) and said first contact of said battery for allowing charging current to flow from said first charging contact into said battery but preventing current flow in opposite direction.

Regarding Claim 36 Maeda et. al. disclose in Figures 1-3, a sensing pin (28) detecting current flow between a first charging pin (10) and a second charging pin (12) (noted that when element 2 is on hook condition then the current flows between two charging pins, 10 and 12, is sensed by the current detector).

Regarding Claim 39, Maeda et. al. disclose in Figures 1-3, wherein said sensing pin of said charger device (30) is in contact with a sensing pin at said headpiece if said headpiece is connected to the charger device so that said sensing pin at said charger

device further detects current flow between said first and second charging contacts of said handpiece, said current flow having a potential for initiating an electrochemical reaction (noted that for examination purpose examiner assumed that "contacts" meant to refer pins).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Kawashima (US 2002/0074970).

Regarding Claim 33, Maeda et. al. do not disclose explicitly, a magnet co-operating with a magnetically activatable switch arranged in a charger device, for initiating a charging operation once the battery-powered handpiece is eclectically connected to said charger device. However, Kawashima discloses in Figures 1A-6, a magnet co-operating with a magnetically activatable switch (14, 24) arranged in a charger device, for initiating a charging operation once the battery-powered handpiece is eclectically connected to said charger device (see also paragraphs 0027-0029). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a magnetic switch with Maeda et. al. charger, for the benefit of allowing the circuit to only operate when a device with a magnetic means is brought into close proximity.

Regarding Claim 34, Kawashima discloses in Figures 1A-6, wherein said magnet (24) is arranged in proximity to the housing of the handpiece.

8. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Compoly et. al. (US 3,851,322).

Regarding Claim 37, Maeda does not disclose explicitly, a warning means for giving a warning signal if current flow between said first and second charging pins is sensed by said sensing pin. However, Compoly et. al. disclose in Figure 2, a warning means (14a) for giving a warning signal if current flow between said first and second charging pins is sensed by said sensing pin (see Abstract, Column 1, lines 60-67). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a short circuit monitoring means with a warning signal as taught by Compoly et. al. in Maeda et. al. device in order to monitor short circuit in the device.

Regarding Claim 38, Compoly et. al. disclose in Figures 1 and 2, comprising said warning means (202) provides and acoustic and/or optical warning.

9. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Inaba et. al. (US 5,945,809)

Regarding Claim 40, Maeda et. al. do not disclose explicitly, an electronic switch connected to said sensing pins of said charger device for disconnecting a charging voltage applied to said first and second charging pins if current flow is sensed by said sensing pin. However, Inaba et. al. disclose in Figures 1-6, Column 2, lines 65-67 and Column 3, lines 1-10, an electronic switch connected to said sensing pins of said

charger device for disconnecting a charging voltage applied to said first and second charging pins if current flow is sensed by said sensing pin. It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a short – circuit protection means in Maeda et. al. circuit in order to prevent the battery from catching fire due to generation of heat.

10. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Inukai et. al. (US 5,867,798).

Regarding Claim 41, Maeda et. al. do not disclose explicitly, a detector for detecting the presence or absence of said battery powered handpiece and a switch for switching on/off the charging voltage dependent on detection of the presence/absence of said handpiece. However, Inukai et. al. disclose in Figure1, a detector (16) for detecting the presence or absence of said battery powered handpiece and a switch (Q1) for switching on/off the charging voltage dependent on detection of the presence/absence of said handpiece (noted when device 3 is placed on the charger, 12, the charge control unit detects electrical connection between the charger and the battery terminals and activate the transistor accordingly). It would have been obvious to a person having ordinary skill in the art at the time of the invention to add a control means that activates a switch when the charger and the rechargeable device electrically meet as taught by Inukai et. al. in Maeda et. al. device in order to control the charging current.



11. Claims 42-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Inukai et. al. (US 5,867,798), and further in view of Watabe et. al. (US 5,793,186).

Regarding Claim 42, neither Maeda et. al. nor Inukai et. al. disclose wherein said switch is selected from the group comprising mechanical switches, optical switches, electromechanical switches, electro-optical switches or magnetic switches. However, Watabe et. al. disclose in Figures 1 and 2, switch is selected from the group comprising mechanical switches, optical switches, electromechanical switches, electro-optical switches or magnetic switches (see also column 1, lines 38-42). It would have been obvious to one having ordinary skill in the art at the time of this invention to use a magnetic switch as taught by Watabe with the charger of Maeda, for the benefit of allowing the circuit to only operate when a device with a magnetic means is brought into close proximity.

Regarding Claim 43, Watabe et. al. discloses, the magnetic switch comprises a magnetically activatable switch being operable in response to a magnet arranged in said handpiece (See Column 1, lines 38-42).

Regarding Claim 44, Watabe et. al. disclose wherein said magnetically activatable switch comprises a Reed Switch (Column 1, lines 38-42)

Regarding Claim 45, Inukai et. al. disclose in Figures 1 and 2, switch allowing a charging voltage to be applied to said charging pins in the presence of said handpiece.

12. Claims 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et. al. (US 5,861,729) in view of Kennedy (US 5,233,283).

Regarding Claims 47 and 49, Maeda et. al. do not disclose explicitly, wherein said a handpiece is a dental tool. However, Kennedy discloses a dental cure light (Column 2, line 42- 45). It would have been obvious to one having ordinary skill in the art at the time of this invention to Maeda's charging circuit with the ability to distinguish between nickel-hydride and nickel-cadmium battery packs, to charge a battery of Kennedy's dental tool.

Regarding Claims 48 and 50, Kennedy discloses a dental cure light (Column 2, line 42- 45).

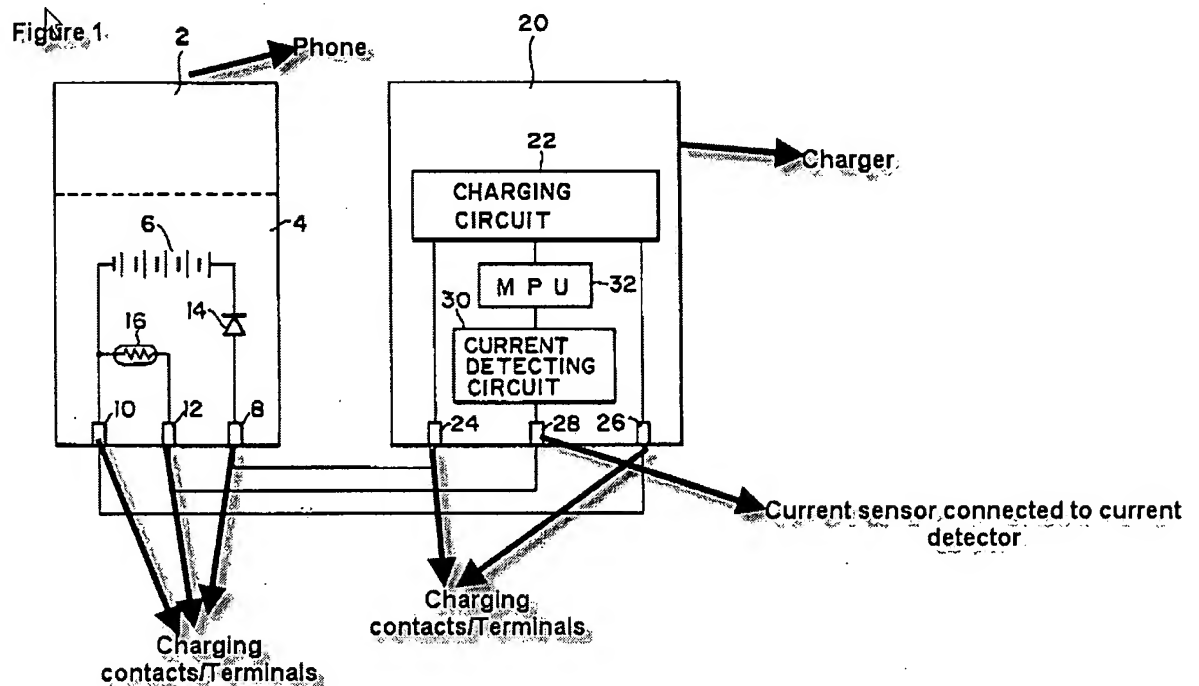
**(10) Response to Argument**

1) Claims 32 and 36 anticipated by Maeda et. al. (Hereinafter Maeda)

Appellant argues that elements 28, 24, 26 are not part of a battery powered hand piece at all. This is irrelevant the "battery power hand piece" has not been given patentable weight because the recitation occurs in the preamble.

Appellant argues that terminal 12 of the portable telephone 2 does not detect current flow between charging terminals 10 and 8. This is immaterial the office communication has never mentioned terminal 12 detects current flow between charging terminals 10 and 18. Instead element 28 is mentioned as current detection means.

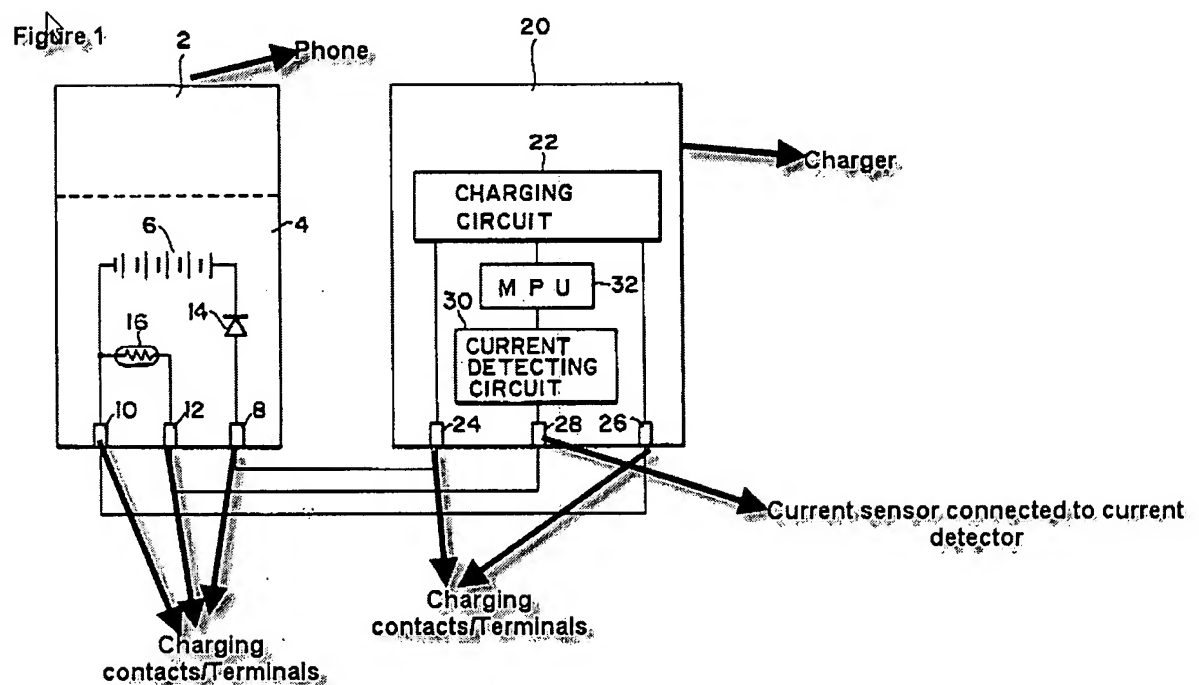
Appellant also argues that auxiliary terminal 28 of the charger 20 does not detect current flow between charging terminals 24 and 26. This is incorrect.



It is clear from Figure 1 of Maeda terminal 28 is electrically connected to the current detecting circuit element 30. The detecting circuit, element 30, is detecting current flow in thermistor 16. In order for current to pass through the thermistor 16, the charging current must pass through the inner close loop that contains elements 24, 8, 12 and 28. The current that passes through thermistor 16 and detected by the current detecting means 28 is the direct representative of the outer loop current where the outer loop contains charging terminals 24 and 26 and battery terminals 8, 10. Therefore, element 28 is detecting charging current that passes through the charging terminals, 24 and 26.

Appellant also argues that there is no sensing pin detecting current flow between first and second charging pins. This is incorrect. Element 28 is connected to the current detecting circuit and detects charging current that passes through the inner close loop that contains elements 24, 8, 12 and 28. Therefore, element 28 is detecting charging current that passes through the charging pins, 10 and 12. Appellant's sensing pin, 23, is similar to Maeda's sensing pin 28.

In the alternative the examiner were to consider the preamble having "battery power hand piece" is part of the claim, still Maeda discloses the claim limitations.



Maeda discloses in Figure 1, a battery powered handpiece (figure 1, element 2) and terminal 28 is electrically connected to the current detecting circuit element 30.

The detecting circuit, element 30, is detecting current flow in thermistor 16. In order for current to pass through the thermistor 16, the charging current must pass through the inner close loop that contains elements 24, 8, 12 and 28. The current that passes through thermistor 16 and detected by the current detecting means 28 is the direct representative of the outer loop current where the outer loop contains charging terminals 24 and 26 and battery terminals 8, 10. Therefore, element 28 is detecting charging current that passes through the charging terminals, 24 and 26.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,



Samuel Berhanu

Conferees:



Bao Q. Vu



David Blum, SPRE 2800